

*Balanar Sconced
Summer 2009
P. 1041 J. Hill*

Customer

Objective: Maintain Best In Class Availability and Performance

Initiative: Complete Contract for Turbine L.P. Blade Replacement

History: Due to observed steam turbine bucket (blade) leading edge erosion and the potential for bucket tip failure, we recommend replacing the low pressure turbine Last Stage Buckets (LSB's) on both Units. We estimate that this will cost a little over \$6 million per unit for materials and labor and will require a six-week outage for each unit to complete, instead of our typical four week outage. This corresponds well with the generator rewind work scheduled for the same outages which will also require six weeks of outage time to complete.

The original manufacturer of the turbine, General Electric, recommends replacing these buckets on both Units and has issued a technical information letter addressing problems with these buckets. These buckets are a 30-inch self shielded type and are made entirely with hardened Jethete base material without stellite erosion shields. GE started installing this type of bucket in the early 1980's to reduce manufacturing costs. Unfortunately the hardening process on this material reduces ductility and increases the tendency for crack propagation.

Status: The Contract to supply and replace the LSB's on both units has been written and will be sent out for bidding in the very near future. We have delayed the purchase from the original schedule because of moving the Unit 2 outage to the fall of 2010 instead of the spring. Also, the price of LSB's seems to be improving as the economy continues to stall. We will be soliciting bids from:

GE Energy
Mechanical Dynamics and Analysis, LTD
TurboCare, Inc.
Alstom Power
Toshiba International Corporation